

82. (Twice Amended) A method for stimulating an immune response in an animal, the immune response being directed toward a self-epitope, the method comprising:

- G<sup>1</sup>
- F<sup>1</sup>
- a) providing a ubiquitin fusion protein comprising ubiquitin fused to one or more epitope-containing segments at contiguous or non-contiguous locations within ubiquitin, the epitope-containing segments comprising two or more identical or non-identical non-ubiquitin self-epitopes, the identical or non-identical non-ubiquitin self-epitopes being selected from the group consisting of gonadotropin releasing hormone and growth hormone, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and
  - b) administering the ubiquitin fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response, thereby stimulating an immune response to the non-ubiquitin self-epitopes.

97. (Thrice Amended) A method for stimulating an immune response in an animal, the immune response being directed toward a self-epitope, the method comprising:

- G<sup>1</sup>
- F<sup>2</sup>
- a) providing a ubiquitin fusion protein comprising ubiquitin fused to a single epitope-containing segment, the epitope-containing segment comprising two or more identical non-ubiquitin self-epitopes, the identical non-ubiquitin self-epitopes being selected from the group consisting of gonadotropin releasing hormone and growth hormone, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and
  - b) administering the ubiquitin fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response, thereby stimulating an immune response to the non-ubiquitin self-epitopes.

98. (Thrice Amended) A method for stimulating an immune response in an animal, the immune response being directed toward a self-epitope, the method comprising:

- a) providing a ubiquitin fusion protein comprising ubiquitin fused to two or more epitope-containing segments, at contiguous or non-contiguous locations within ubiquitin, each epitope-containing segment comprising one or more identical or non-identical non-ubiquitin self-epitopes, the identical or non-identical non-

- ubiquitin self-epitopes being selected from the group consisting of gonadotropin releasing hormone and growth hormone, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and
- b) administering the ubiquitin fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response, thereby stimulating an immune response to the non-ubiquitin self-epitopes.
99. (Thrice Amended) A method for stimulating an immune response in an animal, the immune response being directed toward a self-epitope, the method comprising:
- a) providing a ubiquitin fusion protein comprising ubiquitin fused to a single epitope-containing segment comprising two or more identical or non-identical non-ubiquitin self-epitopes, the identical or non-identical non-ubiquitin self-epitopes being selected from the group consisting of gonadotropin releasing hormone and growth hormone, the epitope-containing segments being fused to ubiquitin at fusion sites selected from the group consisting of the N-terminus and an internal fusion site, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and
- b) administering the ubiquitin fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response, thereby stimulating an immune response to the non-ubiquitin self-epitopes.
100. (Thrice Amended) A method for stimulating an immune response in an animal, the immune response being directed toward a self-epitope, the method comprising:
- a) providing a ubiquitin fusion protein comprising ubiquitin fused to a single epitope-containing segment comprising one or more identical or non-identical non-ubiquitin self-epitopes, the identical or non-identical non-ubiquitin self-epitopes being selected from the group consisting of gonadotropin releasing hormone and growth hormone, the epitope-containing segments being fused to ubiquitin at the N-terminus of ubiquitin, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and

- b) administering the ubiquitin fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response, thereby stimulating an immune response to the non-ubiquitin self-epitopes.
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Attachment 1

Claims with corrections shown

82. (Twice Amended) A method for stimulating an immune response in an animal, the immune response being directed toward a self-epitope, the method comprising:
- a) providing a ubiquitin fusion protein comprising ubiquitin fused to one or more epitope-containing segments at contiguous or non-contiguous locations within ubiquitin, the epitope-containing segments comprising two or more identical or non-identical non-ubiquitin self-epitopes, the identical or non-identical non-ubiquitin self-epitopes being selected from the group consisting of gonadotropin releasing hormone and growth hormone, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and
  - b) administering the ubiquitin fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response, thereby stimulating an immune response to the non-ubiquitin self-epitopes.
97. (Thrice Amended) A method for stimulating an immune response in an animal, the immune response being directed toward a self-epitope, the method comprising:
- a) providing a ubiquitin fusion protein comprising ubiquitin fused to a single epitope-containing segment, the epitope-containing segment comprising two or more identical non-ubiquitin self-epitopes, the identical non-ubiquitin self-epitopes being selected from the group consisting of gonadotropin releasing hormone and growth hormone, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and
  - b) administering the ubiquitin fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response, thereby stimulating an immune response to the non-ubiquitin self-epitopes.
98. (Thrice Amended) A method for stimulating an immune response in an animal, the immune response being directed toward a self-epitope, the method comprising:

- a) providing a ubiquitin fusion protein comprising ubiquitin fused to two or more epitope-containing segments, at contiguous or non-contiguous locations within ubiquitin, each epitope-containing segment comprising one or more identical or non-identical non-ubiquitin self-epitopes, the identical or non-identical non-ubiquitin self-epitopes being selected from the group consisting of gonadotropin releasing hormone and growth hormone, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and
  - b) administering the ubiquitin fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response, thereby stimulating an immune response to the non-ubiquitin self-epitopes.
99. (Thrice Amended) A method for stimulating an immune response in an animal, the immune response being directed toward a self-epitope, the method comprising:
- a) providing a ubiquitin fusion protein comprising ubiquitin fused to a single epitope-containing segment comprising two or more identical or non-identical non-ubiquitin self-epitopes, the identical or non-identical non-ubiquitin self-epitopes being selected from the group consisting of gonadotropin releasing hormone and growth hormone, the epitope-containing segments being fused to ubiquitin at fusion sites selected from the group consisting of the N-terminus and an internal fusion site, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and
  - b) administering the ubiquitin fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response, thereby stimulating an immune response to the non-ubiquitin self-epitopes.
100. (Thrice Amended) A method for stimulating an immune response in an animal, the immune response being directed toward a self-epitope, the method comprising:
- a) providing a ubiquitin fusion protein comprising ubiquitin fused to a single epitope-containing segment comprising one or more identical or non-identical non-ubiquitin self-epitopes, the identical or non-identical non-ubiquitin self-epitopes being selected from the group consisting of gonadotropin releasing

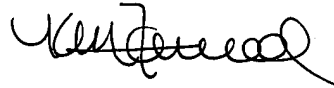
hormone and growth hormone, the epitope-containing segments being fused to ubiquitin at the N-terminus of ubiquitin, wherein the ubiquitin fusion protein is immunogenic for the non-ubiquitin self-epitopes therein; and

- b) administering the ubiquitin fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response, thereby stimulating an immune response to the non-ubiquitin self-epitopes.

Summary

In light of the above amendment, consideration of the subject patent application is respectfully requested. Please charge any deficiency or overpayment to Deposit Account No. 06-0130.

Respectfully submitted,



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